

What is claimed is:

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1. A powertrain for hybrid vehicles, comprising,
an internal combustion engine,
an input shaft driven by said engine,
5 an output shaft,
a plural sets of planetary gear sets between said input
shaft and said output shaft, said planetary gear sets including
a first planetary gear set and a second planetary gear set,
said first planetary gear set has a first rotatable member,
10 and said second planetary gear set has a second rotatable member,
said first rotatable member establishing a reduced speed ratio
when said first rotatable member is braked, said second
rotatable member establishing a overdrive speed ratio when
said second rotatable member is braked;
15 a first electric motor/generator connectable with said
first rotatable member;
a second electric motor/generator connectable with said
output shaft or with said second rotatable member.
2. The powertrain according to claim 1, wherein said plural sets
20 of planetary gear sets are comprised of said two planetary
gear sets: said second planetary gear set has a driving member
that is able to drive said second rotatable member via an
idle gear.
3. The powertrain according to claim 2, wherein said driving
25 member is able to drive a shaft of a power take-off device.

4. The powertrain according to claim 1, wherein said plural sets of planetary gear sets are composed of three sets: said first planetary gear set, said second planetary gear set, and a third planetary gear set, said third planetary gear set has a third rotatable member that is able to establish a medium speed ratio when said third rotatable member is braked, and said first electric motor/generator is selectively connectable with said second rotatable member or with said second rotatable member.

5. The powertrain according to any of claims 1, 2, 3, or 4, wherein one of said planetary gear set is positioned on a first shaft, and another is a second shaft parallel to said first shaft.